

REMARKS

Claims 1 through 19 are in the application and are presented for consideration. By this amendment, Applicant has amended each of the independent claims and made changes to several of the dependent claims. New claims 14 through 19 have been added.

Independent claims 1 and 6 have been modified to highlight the feature that the coupling means includes an interface part or coupler for electric and data coupling with this being at different sides or faces of each module. This is significant as the invention provides a device and system which uses a base module or lower part that connects with a cartridge or upper part wherein modules can be stacked or arranged in series, based on a coupler interface at a side of one module and a coupler interface at a side of the other module. This stacking of modules allows for a modular system in which various different medical active ingredients can be dispersed into a solution (such as an IV solution) with each active ingredient being provided by one of the modules. Modules can be added or taken away in a simple manner based on the stacking modular arrangement. The same coupler interface can be used for the evaluation and control. The system provides flexibility and advantages which are not attained by the prior art as a whole.

Claims 1 – 3 and 6 – 8 have been rejected under 35 U.S.C. section 102 (b) as being anticipated by Bischof, et al (US 4,915,688). The rejection is based on the position that each of the features claimed is disclosed by Bischof, et al.

Bischof, et al. discloses an apparatus for administering a solution to a patient in which a base unit multi-valve 10 provides a conduit for passage of a solution (solution stream) from

a syringe 42, or other fluid source to the patient. The multi-valve structure 10 has various different individual inlets 22'– 36' which each allow for fluids to be input into the solution stream. The inlet structures have valve connections to individual fluid sources such as a supply container 21.

Bischof, et al. fails to teach and fails to suggest a module including a base unit and cartridge module with coupling interfaces for coupling to other modules. The invention provides each module with at least two sides having a coupling interface. This allows for the stacking or series connection feature. Revised claim 6 also highlights the system with an additional module wherein each module has an associated cartridge with a particular medical active ingredient. Bischof, et al. clearly fails to teach or suggest the cooperation of modules and particularly the corporation of modules with a base part and the corresponding cartridge carrying the particular medical active ingredient. Bischof, et al. instead directs the person of ordinary skill in the art to a solution supply line with built in valves with each regulating a separate fluid supply. There is no connection or interaction between individual fluid sources except through the multi-valve structure 10, the structure that is also the fluid supply line. Accordingly, the reference fails to teach and fails to suggest the subject matter as claimed. Accordingly, reconsideration of the rejection based on the claims as presented is requested.

Claims 1 – 11 have been rejected under 35 U.S.C. section 102 (b) as being anticipated by Santini, Jr. et al. The rejection is based on the position that each of the features claimed is disclosed by Santini, Jr. et al.

Santini, Jr. et al teaches a micro-fabricated device for delivery of molecules into a carrier

fluid. An IV fluid container 158 provides the fluid source, which is connected through a coupling means 156 to a patient interface. Plug-in cartridges 152 are somehow activated to release drugs into the carrier fluid as it passes by. No extensive details are provided. This arrangement again is based on a base unit through which the solution passes. This is essentially appears to be a fluid conduit with individual valve structures and reservoirs having particular stored drugs. There is no connection or interaction between individual reservoir units (the cartridges that are fluid sources) except through the structure that is also the fluid supply line. Santini, Jr. et al fails to teach and fails to suggest a module including a base unit and cartridge module with coupling interfaces for coupling to other modules. The invention provides each module with at least two sides having a coupling interface with the stacking or series connection feature. Santini, Jr. et al clearly fails to teach or suggest the cooperation of modules and particularly modules with a base part and the corresponding cartridge carrying the particular medical active ingredient. Santini, Jr. et al instead directs the person of ordinary skill in the art to a solution supply line with valves and with each individual reservoirs, with each having a drug. The reference fails to teach and fails to suggest the subject matter as claimed. Reconsideration of the rejection based on the claims as presented is requested.

Claims 12 – 13 have been rejected under 35 U.S.C. section 103 (a) as being obvious based on the teachings of Santini, Jr. et al. or Bischof, et al. in view of Vilks (US 6, 077, 055).

Vilks discloses a pump system including a cassette sensor that identifies the cassette connected to a base pumping unit. The rejection highlights the passages of the reference relating to the cartridges and use of the identification sensors with a control module for

controlling operation. However, the reference fails to suggest this in the context of individual base units and connected cartridges with the base units having coupling features as claimed. Accordingly, it is Applicant's position that the references as a whole fail to suggest the combination of features claimed. It is Applicant's position that the person of ordinary skill in the art, when considering the prior art as a whole, is not directed and is not motivated to provide the combination of features claimed. Reconsideration of the rejections are requested.

Applicants new claims highlight an important combination of features including the base unit and cartridge of each module as well as the various structural components and their interaction. The claim also highlights the base units having sides with the coupling structures. These claimed features are not taught and not suggested by the prior art as a whole. The claims depending on new claim 14 highlight further important characteristics which are not suggested by the prior art as a whole.

Applicant requests that the Examiner consider references which have been cited in an Examination Report dated February 27, 2004 of the German Patent and Trademark Office regarding the German Priority Application.

U.S. 4,756,706 discloses a centrally managed modular infusion pump system that uses a plurality of infusion pump modules which are detachable connected to a portable central management unit. This combination is similar to other prior art of record in that it uses a central base or control unit which connects to the various modules.

WO 03/026726 discloses a modular drug delivery system. U.S. Applications US 2003/088238 and US 2006/122577 are believed to be related U.S. Publications. The reference

discloses a modular drug delivery system with a reservoir and a control unit in combination with at least one further reservoir or control unit whereby each combination of reservoir unit and control provided different capabilities.

WO 95/28190 A1 discloses systems and methods for cassette identification for drug pumps. A control module has a pumping mechanism for pumping fluid from a reservoir. A cassette is provided with appropriate indicia to identify differences between plurality of cassettes. It is believed that U.S. 5,531,697 and U.S. 5,531,698 are related U.S. publications.

As these references have been cited less than three months ago in a Foreign Search Report, no fee is due.

Favorable consideration of the claims as now presented is requested. Further and favorable action on the merits is requested.

Respectfully submitted
for Applicant,



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